Arkansas Water Plan Update
Water Demand and Forecasting Technical Work Group
Meeting Summary
December 17, 2012

The first meeting of the Water Demand and Forecasting Technical Work Group was held November 17, 2012 at the Arkansas Natural Resources Commission (ANRC) Offices, 101 East Capitol, Little Rock. The meeting was very well attended with almost 60 meeting participants and visitors. The meeting began at 1:30 pm and the work group adjourned at 4:15 pm.

The meeting followed the agenda and began with a welcome and introduction of the work group members and visitors. Next Rick Brown, CDM Smith provided an overview of the purpose of the work group, presented the schedule for the work group and the water plan, gave a brief background of water planning in Arkansas, and outlined the major technical elements that will be addressed in this update to the Arkansas Water Plan. Mitch Horrie, CDM Smith was next on the agenda and he presented a summary of the proposed approach to quantifying and forecasting the major water demand sectors. A review of the PowerPoint presentation and the Draft Arkansas Water Plan Update Water Demand Forecasting Methodology White Paper provides additional detail on the material that was presented.

A summary of the major questions and responses is provided below for each of the major agenda items.

Review Work Group Purpose and Schedule

Question: What is the deliverable product - is it a statewide forecast or more detailed?

Answer: The work group will assist in finalizing the draft methodology AND will provide review and input on the draft water demand quantification and forecast results. The water demand quantification and forecast results will be presented a variety of ways and will include a summary at the statewide level and at the county and major source of supply level (watershed and/or aquifer).

Brief Background on Arkansas Water Plan

Question: How was the 2050 forecast date selected?

Answer: This forecast period was recommended by the technical/advisory committee that was formed to help develop the scope of work for the water plan. The committee selected this timeline because it was sufficiently long range to help identify any major water resource challenges that are likely to be encountered without becoming overly speculative about how water will be use will grow/change in the future.

Overview and Content of Draft Arkansas Water Plan Update Water Demand Forecast Methodology White Paper

Question: Will the intervals of demands be monitored in the future - i.e. if we forecast at 10-year increments will these be monitored to see if we were correct?

Answer: Yes we believe so, but the timing for updating the water plan has not be set and ANRC will likely want feedback from stakeholders as we move through the planning process regarding how often major changes/new information should incorporated in the water plan once this update is complete.

Question: It looks like you are proposing a simple linear model of population and water use - what about conservation and how does price water of water drive the forecast? Water conservation adjustments associated with conservation measures in the 1992 National Energy Policy Act will be included. Additional conservation measures will likely be considered when we begin to look at different options/solutions to address future water needs. In regard to pricing and water use rates, econometric models can be utilized to gain closer insights into this relationship but it is too detailed, data intensive and variable from city to city to be practical for this statewide water planning effort.

Question: How many years are you going to put into the unit water use value [gallons per capita per day (gpcd)]?

Answer: We have 10 years of data and we need to look at this information more closely but our objective is to make sure we are capturing wet and dry conditions, and a range of overall economic conditions.

Question: In our service area we notice a fairly large usage difference across our customers and we can see water use values as much as 3:1 in the rural vs. urban setting. How will the proposed method address this?

Answer: For county/regional level planning this should not present a major issue as long as we think the relative ratio (rural vs. urban) will stay constant as we go forward to 2050. If we are expecting to see a major shift, i.e., more of an urban density, then we could consider some adjustments to the overall water use values. Your point also highlights some of the important differences between state and local planning. At the utility level these differences are very important to ensure that treatment and distribution capacities are appropriate and can address peak water demands versus average demands. If these are major concerns we can give some thought as to how to handle them in the water plan.

Question: What are the sources of data outside of the ANRC that we have?

Answer: The Department of Health also maintains some water use data and that should also be looked at.

Question: What are the methods for projecting population?

Answer: We are considering three sources and they all appear to be linear trend type forecasts.

Question: For the industrial employment forecast after 2018 – how is the employment number uses?

Answer: The proposed methodology will have industrial employment category grow proportional to the rate of population growth; it is not tied to unemployment.

Question: Will the approach look at both withdrawals versus what is used and returned?

Answer: This is an important distinction that the water plan will address but at this time we think this topic is more applicable on the supply availability analysis.

Question: If we are missing data sources from irrigation - can the committee help?

Answer: Yes, this is a great role for the committee - to recommend data and literature that we should consider.

Question: The bullet on the PowerPoint that states that the US Army Corps of Engineers determines availability for hydrolelectric power is not really true. Congress authorizes the purposes of these projects and then they are operated to meet the authorized purposes.

Question: In regard to thermoelectric energy plants and operations, much of this information we would consider confidential business information i.e., timeline for retirements, plant capacity, etc. - how could we get you data and keep it confidential?

Answer: This could be a problem since we are in a public process and we will need to work with the group to address this.

Question: For renewables energy such as wind we need to be careful when we look at this. This form of energy production may not align with actual power needs because the wind does not always provide power when needed i.e., for peaking etc.

Answer: Good point.

Question: A significant amount of hydropower produced in the state is not consumed in this state.

Answer: Since the power needs and forecasts are done on a more regional basis this should not be a significant issue but we will be sure to keep this in mind going forward.

Question: For sensitive information there may be a way to aggregate this so that the information does not become facility specific.

Answer: This will likely be difficult especially if there is just one facility or plant in the region.

Question: You should also note that the price is fuel is a big driver on energy production.

Answer: Good point.

Question: Can you clarify for the mining/oil/natural gas slide what is the y axis label for the top chart?

Answer: It is the volume of gas produced over time and we believe the pattern/relationship of shale gas production and water use over time is similar after a well is drilled through production.

Question: I listened to a lot of information today and I did hear some red flags. I am pretty comfortable with the amount of water that crops need but am more concerned about what the solutions are going to be. I do not see the need to spend a lot of time with the equations - let's just get it done. It is location and timing and I don't see where you are addressing this? I don't see it as "a number" it is more a system – what part is withdrawn and returned, where and how is water captured versus used - if you look at a yearly average then you haven't accurately described the system and I am not sure if a monthly time line will cut it.

Answer: Excellent points. We want to have a stepwise process so we get a good understanding of water needs first (use and forecasts); the time step and pattern of withdrawals and return will be critical. Your point is a good one and you are correct that timing of water needs and sources of supply to meet those needs is where the major conclusions and technical work needs to be as accurate as possible.

Question: Is there any flexibility on time frame - what if we have data gaps?

Answer: Our overall deadline of November 2014 is the hard deadline and we have to be careful if we take too much time on the demand quantification part of the update then it will cut us short of time if/when we have to start evaluating solutions to meet water needs. Typically this latter part of the process is the more time consuming.

Question: What is the end game - will the plan result in regulations or just information or what is the overall purpose?

Answer: Your question is very difficult to answer because to answer it I would have to presuppose some outcomes to the demand and supply availability work and we should not do this. What I can say is that when we get to the point of making recommendations the ANRC wants your thoughts and input as to what types of solutions should and should not be considered.

Question: As we wrap up for today I would like to thank everyone for attending and participating and would like to know for our conference calls are there some days in January that we need to avoid?

Answer: Yes – the national holidays and the 14-16 is the Farm Bureau National Convention and overall January is a heavy meeting month for farming (7-8th may be good); finally the last week in January is bad for the National Association of Conservation Districts meeting.

The following logistics were discussed:

- CDM Smith will email the work group to poll for the best conference call dates
- The group noted it was ok to share email and phone numbers with the other group members
- If a group member wants their titles included in the contact list they will need to provide them to CDM Smith via email response
- Please make sure to email the PowerPoint slides

Please e-mail questions, comments, or suggestions to ArkansasWater@cdmsmith.com.